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 TI Transdermal **delivery** and accumulation of indomethacin in subcutaneous tissues in rats  
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 DT Journal  
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 AB Oral non-steroidal anti-inflammatory drugs (NSAIDs) are effective pharmacotherapy for a wide variety of painful, inflammatory disorders. Development of an efficient means of topical administration of NSAIDs could increase local soft-tissue and joint concns. while reducing systemic distribution of the drug, thereby reducing side-effects. We studied the effects of a novel topical penetration enhancer for lipophilic compds., a trans-phase **delivery** system (TPDS), a solution of benzyl alc., isopropanol and acetone, on the distribution of indomethacin in various tissues locally and remote from the site of application. We compared the TPDS with a 50:50 (volume/volume) mixture of propylene glycol and ethanol, a commonly used penetration enhancer, and with oral administration. The TPDS was significantly superior to the other approaches at achieving high local-tissue concns. in the vicinity of the site of application. In addition, comparison of these 2 carrier systems seems to clarify the different aqueous and hydrophobic pathways of drug penetration which emerge from various exptl. findings and theor. considerations. This non-aqueous solvent system, and benzyl alc. in particular, because of its unique physicochem. and solvating characteristics, might be able to deliver therapeutic levels of indomethacin to tissues close to the site of application in a safer and more effective manner than presently accepted forms of **delivery**.  
 ST transdermal **delivery** indomethacin subcutaneous tissue  
 IT Connective tissue  
 (s.c.; transdermal **delivery** and accumulation of indomethacin in s.c. tissues)  
 IT Drug bioavailability  
 Kidney  
 Liver  
 (transdermal **delivery** and accumulation of indomethacin in s.c. tissues)  
 IT Drug **delivery** systems  
 (transdermal; transdermal **delivery** and accumulation of indomethacin in s.c. tissues)  
 IT 53-86-1, Indomethacin  
 RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
 (transdermal **delivery** and accumulation of indomethacin in s.c. tissues)  
 IT 67-63-0, Isopropanol, biological studies 67-64-1, Acetone, biological studies 100-51-6, Benzyl alcohol, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (transdermal **delivery** and accumulation of indomethacin in s.c. tissues)  
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